SWEPT

System-Wide Evaluation and Planning Tool

Purpose:
Assist traffic management specialists in predicting and analyzing the impact of en route restrictions.

Users:
- Traffic Management Specialists and Quality Assurance personnel
- En route Traffic Management Coordinators
- Facility Managers
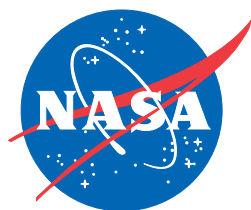- Airline Operations Centers

Capabilities:
- NAS wide sector/fix/airport demand predictions
- National Playbook reroute conformance monitoring capabilities
- National Playbook and Coded Departure Route (CDR) rerouting capabilities
- Miles-in-trail (MIT) and ground delay program (GDP) modeling

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Overview
The System-Wide Evaluation and Planning Tool (SWEPT) is a traffic flow management (TFM) decision support tool which can be used by a traffic management specialist at the national or regional level. SWEPT is supported by the NASA Airspace Systems Program and is being developed in conjunction with the Volpe National Transportation Systems Center and Computer Sciences Corporation.

Conformance Monitoring
The SWEPT conformance monitoring application will provide traffic management specialists with a tool to monitor the execution and success of various TFM initiatives. Graphical displays will be available to monitor the progress of individual flights that are being impacted by a restriction. This application can be used either in real-time or for post-operations analysis.

En route Demand Predictions and Analysis
For each active and proposed aircraft in the NAS, the SWEPT trajectory prediction module can be used to compute the predicted demand at sectors, fixes and airports. Graphical displays are available in SWEPT, which can be used to quickly identify NAS resources that are over-utilized. The rerouting, miles-in-trail (MIT) and ground delay program (GDP) algorithms in SWEPT can be used in conjunction with the trajectory prediction module to rapidly assess the impact of a TFM restriction prior to implementation. This capability will allow traffic management specialists to determine the effectiveness of various TFM initiatives.